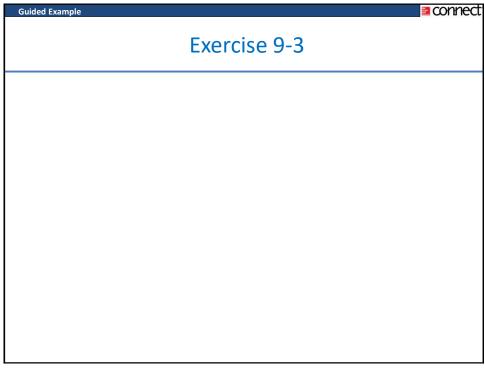
		Click on links
Exercise 9-3	Prepare a Flexible Budget with More Than One Cost Driver	Exercise 9-3
Exercise 9-4	Direct Materials Variances	Exercise 9-4
Exercise 9-5	Direct Labor Variances	Exercise 9-5
Exercise 9-6	Variable Overhead Variances	Exercise 9-6
Exercise 9-7	Planning Budget	Exercise 9-7
Exercise 9-8	Flexible Budget	Exercise 9-8
Exercise 9-10	Direct Labor and Variable Manufacturing Overhead Variances	Exercise 9-10
Exercise 9A-1	Fixed Overhead Variances	Exercise 9A-1
Exercise 9A-2	Predetermined Overhead Rate; Overhead Variances	Exercise 9A-2



connect

Budd's Bus Company operates bus tours of the Finger Lakes in New York state. Management has identified two cost drivers—the number of trips and the number of passengers—that it uses in its budgeting and performance reports. The company runs two trips daily from March to October. Up to 85 passengers can be accommodated on the bus. Data concerning the company's cost formulas appear in the chart.

	Fixed Cost per Month	Cost per Trip	Cost per Passenger
Bus operating costs	\$ 1,400	\$ 27.50	\$ 1.25
Advertising	\$ 1,800		
Administrative costs	\$ 2,200	\$ 14.00	\$ 1.25
Insurance	\$ 2,785		

For example, bus operating costs should be \$ 1,400 per month plus \$ 27.50 per trip plus \$ 1.25 per passenger. The company's sales should average \$ 8.00 per passenger. In March the company provided 62 trips and served 4,340 passengers.

Required

Prepare the company's flexible budget for March.

[LO5]

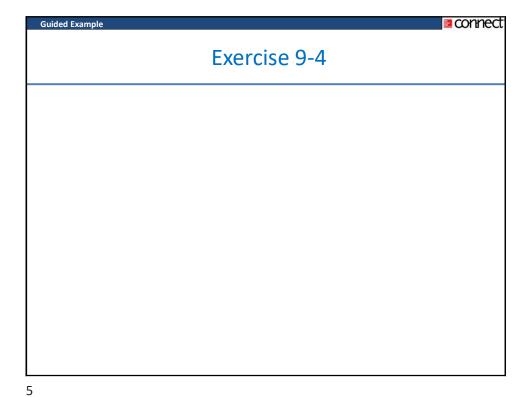
3



connect

Required: Prepare the company's flexible budget for March.

Budd's Bus Company	
Flexible Budget	
For the Month Ended March 31	
Actual trips (q ¹)	62
Actual passengers (q)	4,340
_	
Revenue (\$8.00q ²)	\$ 34,720
Expenses:	
Bus operating costs (\$1,400 + \$27.50 q ¹ + \$1.25q ²)	8,530
Advertising (\$1,800)	1,800
Administrative costs ($\$2,200 + \$14.00q^{1} + \$1.25 q^{2}$)	8,493
Insurance (\$2,785)	2,785
Total expense	21,608
Net operating income	\$ 13,112



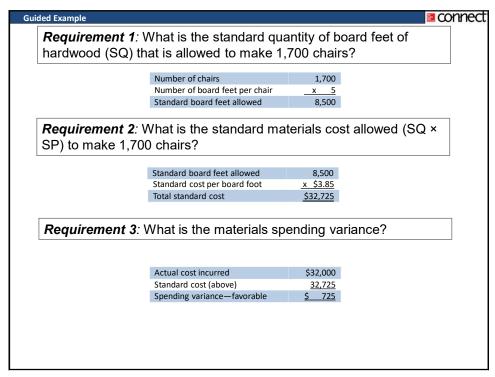
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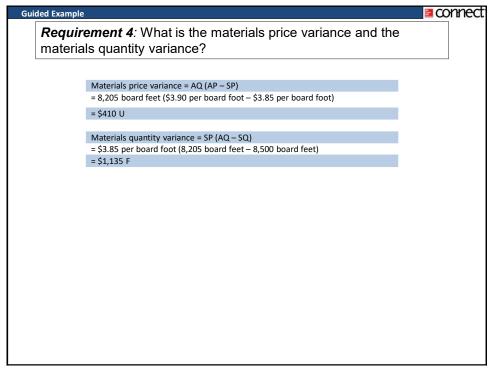
Woodson Wood Products, Inc., manufactures various items from wood. One of these products is a chair. During a recent month, the company manufactured 1,700 chairs using 8,205 board feet of hardwood. The hardwood cost the company \$32,000. The company's standards for one chair are 5 board feet of hardwood, at a cost of \$3.85 per board foot.

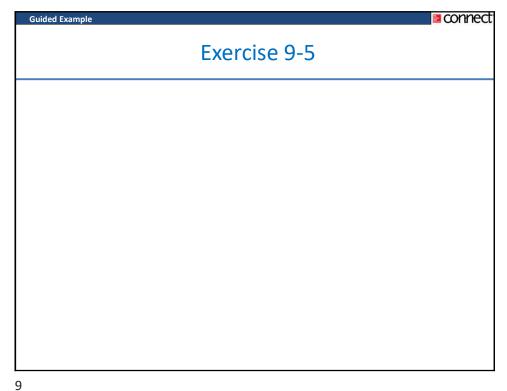
Required:

- 1. What is the standard quantity of board feet of hardwood (SQ) that is allowed to make 1,700 chairs?
- 2. What is the standard materials cost allowed (SQ × SP) to make 1,700 chairs?
- 3. What is the materials spending variance?
- 4. What is the materials price variance and the materials quantity variance?

[LO1







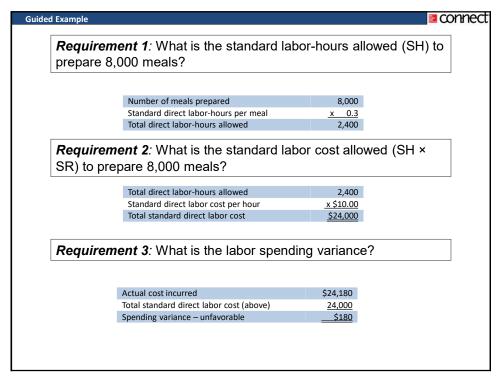
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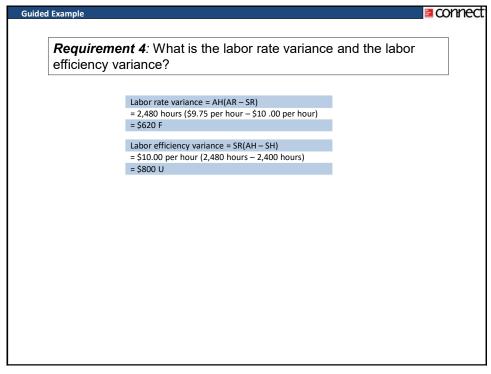
ToGo Meals, Inc., prepares packaged meals for busy commuters to "grab & go." One of the company's products is a BLT on oat wheat bread with honey-Dijon mustard. During the most recent week, the company prepared 8,000 of these meals using 2,480 direct labor-hours. The company paid these direct labor workers a total of \$24,180 for this work, or \$9.75 per hour. According to the standard cost card for this meal, it should require 0.30 direct labor-hours at a cost of \$10.00 per hour.

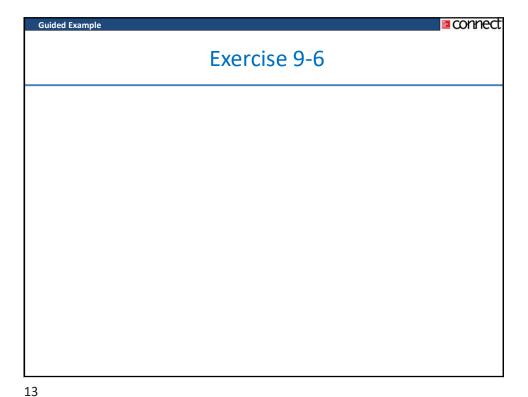
Required:

- 1. What is the standard labor-hours allowed (SH) to prepare 8,000 meals?
- 2. What is the standard labor cost allowed (SH × SR) to prepare 8,000 meals?
- 3. What is the labor spending variance?
- 4. What is the labor rate variance and the labor efficiency variance?

[LO2]







connect

Shiplt, Inc., provides shipping and warehousing services for local merchants. The company maintains warehouses that stock items and deliver them to the stores or direct to customers. Shiplt, Inc. uses a predetermined variable overhead rate based on direct labor-hours.

In the most recent month, 72,000 items were shipped to customers using 6,900 direct labor-hours. The company incurred a total of \$21,390 in variable overhead costs.

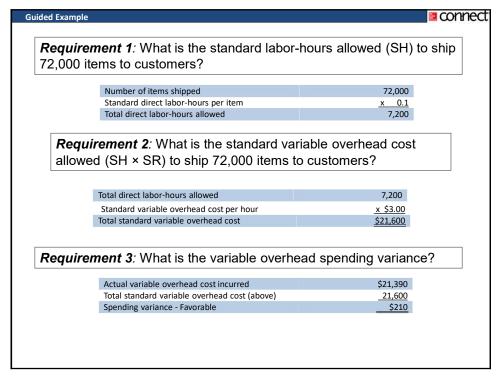
According to the company's standards, 0.1 direct labor-hours are required to fulfill an order

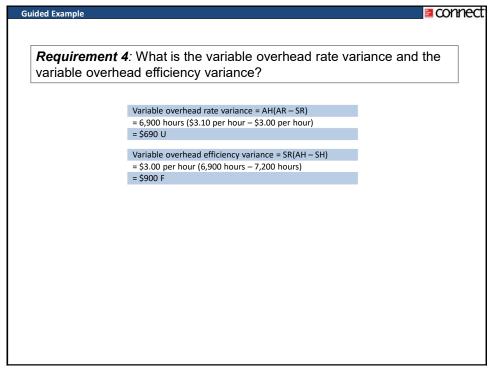
for one item and the variable overhead rate is \$3.00 per direct labor-hour.

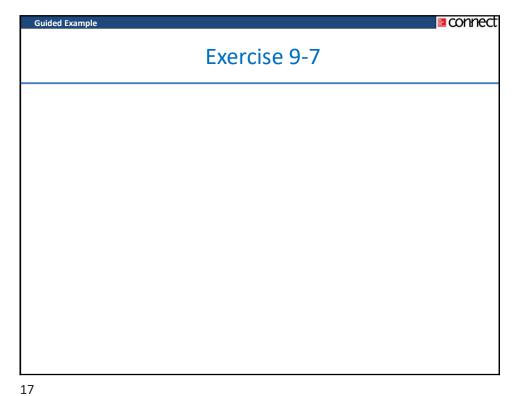
Required.

- 1. What is the standard labor-hours allowed (SH) to ship 72,000 items to customers?
- 2. What is the standard variable overhead cost allowed (SH × SR) to ship 72,000 items to customers?
- 3. What is the variable overhead spending variance?
- 4. What is the variable overhead rate variance and the variable overhead efficiency variance?

[LO3]







connect

Lavado Rapido is a Mexican company that owns and operates a large automatic car wash facility near Mexico City. The following table provides data concerning the company's costs:

	Fixed Co	st per Month	Cost per Car Washed
Cleaning supplies			\$1.10
Electricity	\$	1,500	\$0.20
Maintenance			\$0.35
Wages and salaries	\$	6,500	\$0.80
Depreciation	\$	6,000	
Rent	\$	9,500	
Administrative expenses	\$	3,500	\$0.20

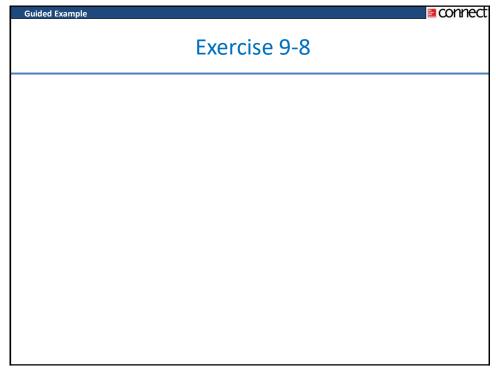
For example, electricity cost are \$1,500 per month plus \$0.20 per car washed. The company expects to wash 10,000 cars in October and to collect an average of \$5.50 per car washed.

Required:

Prepare the company's planning budget for October.

[LO1]





connect

Lavado Rapido is a Mexican company that owns and operates a large automatic car wash facility near Mexico City. The following table provides data concerning the company's costs:

io.			
	Fixed Co	st per Month	Cost per Car Washed
Cleaning supplies			\$1.10
Electricity	\$	1,500	\$0.20
Maintenance			\$0.35
Wages and salaries	\$	6,500	\$0.80
Depreciation	\$	7,000	
Rent	\$	9,500	
Administrative expenses	\$	3,500	\$0.20

For example, electricity cost are \$1,500 per month plus \$0.20 per car washed. The company expects to collect an average of \$5.50 per car washed . The company actually washed 9,500 cars in October.

Required:

Prepare the company's flexible budget for October.

[LO1]

Lavado Rapido	
Flexible Budget	
For the Month Ended Octobe	er 31
Actual cars washed (q)	9,500
Revenue (\$5.50g)	\$52.250
Expenses:	ASM3
Cleaning supplies (\$1.10q)	10,450
Electricity (\$1,500 + \$0.20q)	3,400
Maintenance (\$0.35q)	3,325
Wages and salaries (\$6,500 + \$0.80q)	14,100 ASM2
Depreciation (\$7,000)	6,000 ASIVIZ
Rent (\$9,500)	9,500
Administrative expenses (\$3,500 + \$0.20q)	5,400
Total expense	52,175
Net operating income	<u>\$75</u>

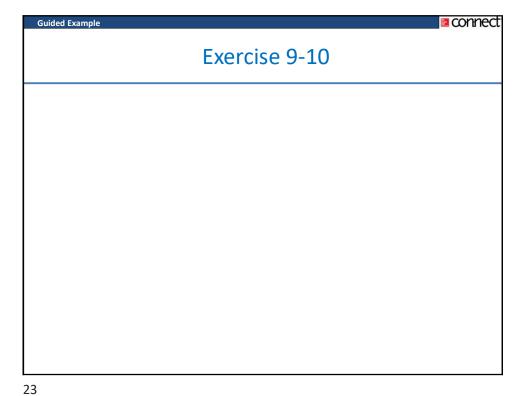
ASM2 The costs for Electricity, Maintenance, Wages and salaries, and Administrative expenses are incorrect. See table on bottom of script

I have corrected the #s per the table on the script. Once the correct #s are input, I get total expenses of \$53,175, which will result in a loss of \$925. I would suggest decreasing fixed expenses by at least \$1,000 on this and perhaps 9-10 as well, since they are based upon the same data.

Ann K Brooks; 30/11/2016

ASM3 I decreased depreciaiton expense from \$7,000 to \$6,000 to correct this problem and also made the change on 9-10

Ann K Brooks; 30/11/2016



connect

Georgian Company manufactures a mobile fitness device called the Skiing Mate. The company uses standards to control its costs. The labor standards that have been set for one Skiing Mate are as follows:

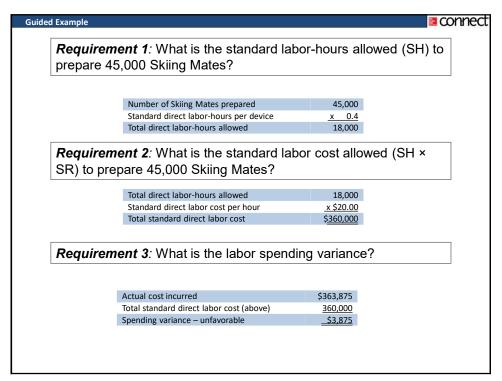
Standard	Standard Rate	Standard
Hours	per Hour	Cost
24 minutes	\$20.00	\$8.00

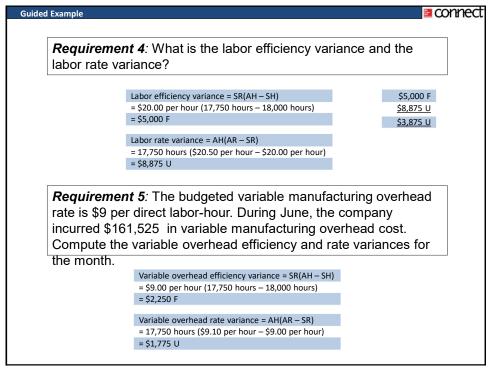
During June, 17,750 hours of direct labor time were needed to make 45,000 units of the Skiing Mate. The direct labor cost totaled \$363,875 for the month.

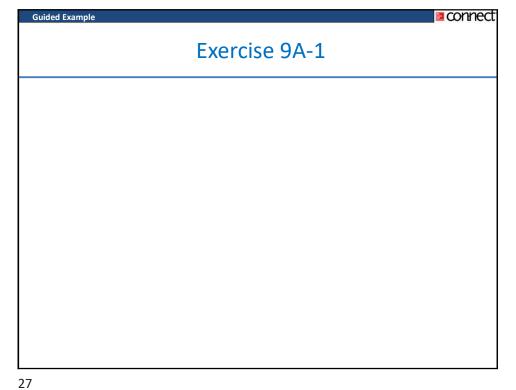
Required:

- 1. What is the standard labor-hours allowed (SH) to prepare 45,000 Skiing Mates?
- 2. What is the standard labor cost allowed (SH × SR) to prepare 45,000 Skiing Mates?
- 3. What is the labor spending variance?
- 4. What is the labor efficiency variance and the labor rate variance?
- 5. The budgeted variable manufacturing overhead rate is \$9 per direct labor-hour. During June, the company incurred \$161,525 in variable manufacturing overhead cost. Compute the variable overhead efficiency and rate variances for the month.

[LO2], [LO3]







connect **Guided Example**

Numera Corporation has a standard cost system in which it applies overhead to products based on the standard direct labor-hours allowed for the actual output of the period. Data concerning the most recent year appear below:

Total budgeted fixed overhead cost for the year	\$450,000
Actual fixed overhead cost for the year	\$449,000
Budgeted direct labor-hours (denominator level of activity)	30,000
Actual direct labor-hours	31,000
Standard direct labor-hours allowed for the actual output	29,500

Required:

- Compute the fixed portion of the predetermined overhead rate for the year.
 Compute the fixed overhead budget variance and volume variance.

[LO4]

connect

Requirement 1: Compute the fixed portion of the predetermined overhead rate for the year.

Fixed portion of the POR = $\frac{Fixed\ overhead}{Denominator\ level\ of\ activity}$ = $\frac{\$450,000}{30,000\ DLHs}$ = $\$15.00\ per\ DLH$

Requirement 2: Compute the fixed overhead budget variance and volume variance.

Budget variance = Actual fixed overhead – Budgeted fixed overhead = \$449,000 - \$450,000 = \$1,000 F

Volume variance = Fixed portion of the POR × (Denominator hours – Standard hours)

= \$15 $per DLH \times (30,000 - 29,500)$ = \$7,500 U

29

Exercise 9A-2

connect

Cornwall Company's budgeted variable manufacturing overhead cost is \$4.50 per machine-hour and its budgeted fixed manufacturing overhead is \$450,000 per month.

The following information is available for a recent month:

- The denominator activity of 75,000 machine-hours is used to compute the predetermined overhead rate.
- b. At a denominator activity of 75,000 machine-hours, the company should produce 60,000 units of product.
- c. The company's actual operating results were:

Number of units produced	61,000
Actual machine-hours	74,000
Actual variable manufacturing overhead cost	\$ 336,700
Actual fixed manufacturing overhead cost	\$ 452,500

Required:

- Compute the predetermined overhead rate and break it down into variable and fixed cost elements.
- 2. Compute the standard hours allowed for the actual production.
- 3. Compute the variable overhead rate and efficiency variances and the fixed overhead budget and volume variances.

[LO3], [LO4]

31

Guided Example

connect

Requirement 1: Compute the predetermined overhead rate and break it down into variable and fixed cost elements.

$$Predetermined overhead \ rate = \frac{VPOR \times Activity + Fixed \ overhead}{Denominator \ level \ of \ activity}$$

$$= \frac{\$4.5 \ per \ MH \times 75,000 \ MHs + \$450,000}{75,000 \ MH}$$

$$= \$10.50 \ per \ MH$$

$$Variable \ predetermined \ overhead \ rate = \frac{VPOR \times Activity}{Denominator \ level \ of \ activity}$$

$$= \frac{\$4.5 \ per \ MH \times 75,000 \ MH}{75,000 \ MH}$$

$$= \$4.50 \ per \ MH$$

$$Fixed \ portion \ of \ the \ POR = \frac{Fixed \ overhead}{Denominator \ level \ of \ activity}$$

$$\$450,000$$

 $= \frac{$75,000 \text{ MH}}{75,000 \text{ per MH}}$ = \$6.00 per MH

